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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,472	08/01/2000	GERWIG MARQUARDT	60GB00128	7013

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GE PLASTICS  
ONE PLASTICS AVENUE  
PITTSFIELD, MA 01201

EXAMINER

ZEMEL, IRINA SOPJIA

ART UNIT PAPER NUMBER

1711

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/530,472	MARQUARDT, GERWIG	
	Examiner	Art Unit	
	Irina S. Zemel	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6, 8-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added limitation to the foams being foamed "at a temperature less than or equal to 50 C" is not supported by the originally filed specification. While mixing of the components of the composition at temperatures less or equal to 50 C is disclosed on page 5, lines 18-20, the claimed foaming at these temperatures is not only unsupported, it contradicts the disclosure on pages 20-22 of the same page expressly stating that foaming and curing is done simultaneously at temperatures above 60 C. Contrary to the applicants' statement on page 6 of their 11-2006 response, claim 1 as amended does NOT incorporate the limitations of claim 7. The originally filed claim 7 claimed mixing, not foaming temperatures. Also, all of the illustrative examples designated "according to the invention" disclose foaming of the composition at temperatures much higher than the claimed upper limit of 50 C.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6, 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The amended preamble of claim 1 is confusing. It is not clear what is meant by "foams from the reaction product of..". It is not clear whether the foams are obtained from the reaction product, or foams are the reaction product of the claimed mixture. As it is claimed now, it appears that the foams are obtained from the reaction product, however, such claim language would be inconsistent with the exemplified invention, since the reaction of the components does not occur prior to foams being formed. Clarification is requested.

Claim 8 claims the process which includes the step of using the composition of claim 1. However, claim 1 is not directed to a composition, and already claims a foam.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 751 173 to Bayer AG (hereinafter "Bayer") published on January 2, 1997 in combination with either US Patent 5,976,454 to Sterzel et al., (hereinafter "Sterzel") or WO 9713804 to Heidelberger Baustofftechnik GMBH, (hereinafter "Heidelberger").

The rejection stands as per reasons of record. As far as the limitations of amended claim 4, the Bayer reference discloses the claimed catalyst in column 2, lines

55-59. Inhibitors corresponding to those claimed in claim 5 are disclosed in column 3, lines 5-9 of Bayer. Disclosure of blowing agent with particle size of less than 20 um as per claim 6 is obvious from disclosure of particles with the size of less than 40 um, which encompasses any particle size smaller than 40 um with reasonable expectation of adequate results. The foam compositions are processed by injection molding, cured and formed in products corresponding to those claimed in claim 9, see column 3, lines 22-36.

### ***Response to Arguments***

Applicant's arguments filed 1-11-2006 have been fully considered but they are not persuasive. The applicants argue that "curing of the foams produced by EP0751173 occurs at 140 C and Applicant specifically notes in the specification that using the carbonate compounds of the '173 reference do not produce good foams because the higher curing temperature interferes with maintaining the foam." In response to these arguments the examiner notes that the claimed temperature is NOT limited to the temperatures below those exemplified in the EP reference, i.e. 140 C, and further notes that all of the illustrative examples according to the invention (i.e., examples 2 and 4) of the instant specification employ curing temperatures that exceeds 140 C, i.e., exemplified temperatures are 180 (example 2) and 150-160 (example 4). Thus, the applicants arguments regarding high curing temperatures disclosed in the EP reference are, at best, are not persuasive, and, in general, are irrelevant to the invention as claimed.

Applicant further state that "applicant specifically notes that the blowing temperature (or temperature that facilitates the decomposition of the carbonate blowing compound) and the curing temperature must be fairly close together, in contrast to the cited prior art." Again, this argument is not convincing for several reasons. First of all, as per disclosure of the reference, blowing and curing occurs at the same temperature in illustrative examples of EP reference. Second of all, the claim 1 is now amended so that the blowing and curing temperature are NOT close together. And more importantly, as per illustrative example, at least the curing step occurs at temperatures above 150 C, while the decomposition temperature ammonium bicarbonate is usually below 60 C. How 180 C is considered to be close to 60 C is not clear at all.

The applicants further state that "In arguing that the use of ammonium hydrogen carbonate as a blowing agent would have been obvious in view of the use sodium hydrogen carbonate and/or ammonium carbonate the Examiner is using the impermissible obvious to try standard." The examiner disagree. First of all, the examiner did NOT state that use of the claimed sodium bicarbonate would have been obvious in place of the disclosed sodium bicarbonate. The relevant passages of the previous office action state that "references disclose finely divided ammonium hydrogen carbonate as a known blowing agent for silicone based foams, and also disclose functional equivalence of **ammonium hydrogen carbonate** and **ammonium carbonate**. As per, for example, Sterzel, column 9, lines 20-45. Therefore, substitution of expressly disclosed blowing agent with its known functional equivalent would have been obvious absent showing of unexpected results that can be attributed

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to the specifically claimed blowing agent.” (Emphasis added). The applicants further state that “The Examiner's remarks conveniently overlook the effect of decomposition temperature of the carbonate blowing agent on the instant process and on the foam produced thereby when the curing temperature is lowered as it is instantly to more closely match the blowing temperature.” In response to those arguments the examiner notes that the applicants arguments conveniently overlook the fact that first of all, decomposition temperatures of the claimed ammonium bicarbonate and the expressly disclosed ammonium carbonate are quite similar. In fact, ammonium carbonate is usually a mixture of ammonium carbamate and ammonium bicarbonate and, thus, inherently contains at least some amount of the claimed ammonium hydrogen carbonate. Second of all, the applicants remarks conveniently overlook the fact that lower temperatures are NOT part of the claims, and further, the fact that the curing temperatures disclosed in EP reference, i.e. 140 C is significantly lower than those used in the illustrative examples of the instant application as discussed above. Taken all the above in consideration, there is a clear expectation of adequate results, if not anticipation of the claimed invention based on inherent presence of the claimed bicarbonate in the expressly disclosed ammonium carbonate.

Applicants arguments regarding unexpected results are noted and have been previously expressly addressed by the examiner. As stated in the previous office action, the provided results are 1) not commensurate in scope with the claimed invention and 2) the comparative results do not compare the claimed invention with the closest prior art.

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As far as the scope of the invention, the claimed invention encompasses embodiments with as little as about 0.1 % and as high as about 10 % of the blowing agent (based on the min and max amounts of components a and b). The alleged unexpected results are only shown for compositions having about 2 % by weight of the claimed blowing agent. As far as the comparison to the closest prior art, the Bayer reference expressly lists TWO different species of the blowing agent, namely sodium hydrogen carbonate and ammonium carbonate. The latter is considered to be the closest prior art to the claimed ammonium hydrogen carbonate. The results of the comparative example 1 uses the former blowing agent, which is known to be different from the claimed ammonium bicarbonate, and the entire rejection was based on functional equivalence of ammonium carbonate and ammonium bicarbonate and substitution of one with another.

Therefore, the invention as claimed is considered to have been obvious from the combined teachings of the above cited references and alleged unexpected results fail to rebut the prima facie case of obviousness established by the Examiner as per discussions above.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within



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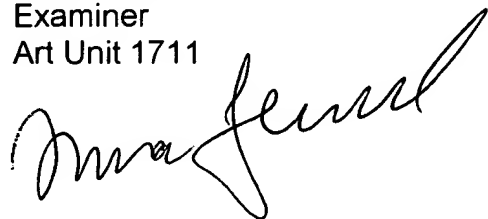
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irina S. Zemel  
Examiner  
Art Unit 1711



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